

REMARKS

Claims 1-30 and 36-40 are currently pending in the application. Claims 1, 8, 19, 27 and 36 are independent.

Objections to the Drawings

The Office Action objects to the drawings because claim 1 recites a “first supercharger housing element” and a “second supercharger housing element”. These claim elements are allegedly not shown in the drawings. Applicants have amended claim 1 to recite a “primary gear housing section” and a “removable gear housing section” rather than a “first supercharger housing element” and a “second supercharger housing element”. The language of the amended claim elements is consistent with the language used in the originally-filed specification.

The Office Action further objects to the drawings because claim 3 recites a “stepped surface” and an “irregular surface”. These claim elements have been deleted from claim 3, thereby rendering the objection moot.

The Office Action also objects to the drawings because reference character “31” has been used to designate both “semi circular recess” (FIG. 2B) and “heat transfer elements” (FIG. 2C). Applicants have amended the drawings and specification to use reference numeral “35” to designate the “heat transfer elements”.

The Office Action further objects to the drawings because reference character “64” is not mentioned in the description. Applicants have amended the specification via replacement paragraphs such that the “lubrication conduit” is correctly referred to as element “64” rather than “63”.

The Office Action further objects to the drawings because reference characters “74” and “76” are not mentioned in the description. These reference characters have been removed from the drawings, thereby rendering the objection moot.

Objections to the Specification

The Office Action objects to the specification because “compressor housing 26” should be replaced by “compressor housing 24” on page 6, line 4. Applicants have amended the specification accordingly by way of replacement paragraph.

The Office Action also objects to the specification for failing to provide proper antecedent basis for a “first supercharger housing element” and a “second supercharger housing element”. As discussed above, Applicants have amended claim 1 to recite a “primary gear housing section” and a “removable gear housing section” rather than a “first supercharger housing element” and a “second supercharger housing element”. The language of the amended claim elements is consistent with the language used in the originally-filed specification.

Rejection Under 35 U.S.C. § 112

Claim 13 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because the recitation of “more than one element” is allegedly unclear. In an effort to expedite prosecution on the merits, Applicants have amended claim 13 to remove the recitation of “more than one element”.

Rejection Under 35 U.S.C. § 102

Claims 19, 21 and 22 are rejected under 35 U.S.C. § 102(b), as being anticipated by Smith U.S. Patent No. 5,168,972 (“Smith”).

Smith discloses a one-way drive train clutch assembly for a supercharged engine comprising two cooperating shafts adapted to disengage from one another upon stoppage or reversal of rotation of one of the shafts. Smith’s disengagement mechanism is specifically used to prevent damage to the supercharger during periods of engine detonation and/or backfire. Further, the disengagement mechanism is limited to disengagement such that it does not re-engage subsequent to a disengagement event. The present invention teaches a supercharger disengagement device that decouples during deceleration events (of the drive pulley), and then re-engages during acceleration and/or power-transmitting events. Smith fails to disclose a device that decouples during deceleration events, nor does Smith teach a device that re-engages during acceleration and/or power-transmitting events. Applicants have amended claim 19 to recite that the disengagement device permits disengagement *and re-engagement* between the impeller and the drive pulley. Since Smith does not teach re-engagement of the impeller and drive pulley, Smith fails to anticipate claim 19.

In view of the above, it is respectfully submitted that claim 19 (and claims 21 and 22, which depend therefrom) are not anticipated by Smith.

Claims 19 and 21-23 are rejected under 35 U.S.C. § 102(b), as being anticipated by Roberts U.S. Patent No. 4,145,888 (“Roberts”).

Roberts teaches a combined turbocharger and accessory drive comprising an exhaust gas turbine, a supercharger and an accessory drive for an internal combustion engine in an automotive vehicle. Roberts provides a complex drive train system that requires three different

clutch mechanisms in order to operate. These clutch mechanisms include one-way clutch 24, multi-plate clutch 28 and centrifugally unloading clutch 37, wherein at least two individual clutch mechanisms must be engaged to transmit any shaft power to impeller 32. Roberts' multi-clutch disengagement system clearly is not comparable to the single clutch disengagement mechanism of the subject invention. Further, Roberts' overruning disengagement device 24 is disposed between a turbine and impeller. By contrast, claim 19 requires that the disengagement device be disposed between an impeller and a drive pulley. Moreover, Applicants have amended claim 19 to recite that the disengagement device permits disengagement *and re-engagement* between the impeller and the drive pulley. Roberts does not disclose such re-engagement of the impeller and drive pulley.

In view of the above, it is respectfully submitted that claim 19 (and claims 21-23, which depend therefrom) are not anticipated by Roberts.

Claims 19, 20 and 24 are rejected under 35 U.S.C. § 102(b), as being anticipated by Okada U.S. Patent No. 4,946,014 ("Okada").

Okada discloses a brake system or retarder having a blower which picks up energy from a power transmission line of a vehicle and uses the energy to drive the blower, thereby applying a brake force to the vehicle. The brake system cuts off energy from the power transmission line when trouble occurs in the brake system. It is respectfully submitted that Okada fails to qualify as prior art as it is nonanalogous and therefore cannot be used in the rejection of the present invention. In order to rely upon a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem concerned. *In Re Oetiker*, 977 F.2d 1443, 1446. (The *Oetiker*

court held that the reference (a hook for garments) was neither within applicant's field of endeavor, nor reasonably pertinent to the particular problem with which the inventor was concerned because one of ordinary skill, seeking to solve the problem of fastening a hose clamp, would not reasonably be expected or motivated to turn to the garment industry to find a fastener).

Similar to *Oetiker*, the cited reference (Okada) is not in the field of the endeavor, and it is not reasonably pertinent to the particular problem concerned. On one hand, the field of endeavor of the present invention concerns a disengagement device for the impeller of a supercharger. On the other hand, Okada is concerned with a brake system that cuts off energy from the power transmission line when trouble occurs in the brake system. One of ordinary skill, seeking to provide an improved supercharger, would not be reasonably expected or motivated to look to a braking system for a solution to a problem concerning disengagement of the impeller from the drive pulley of the supercharger. On this basis, it is unreasonable to reject the present application based on Okada.

Okada teaches use of a blower purely as a parasitic power absorber for use to brake or retard engine speed, presumably to decelerate the engine in the event of normal brake system failure (Okada Col. 1, lines 5-14). The Office Action asserts that Okada's disengagement device permits disengagement between the impeller and the drive, wherein the impeller is disengaged from the drive gear during deceleration. These assertions are incorrect since Okada's disengagement device functions during deceleration for the purpose of deceleration. Therefore, the disengagement device *must engage* during deceleration rather than disengage during deceleration. The Office action also contends that Okada's disengagement device comprises a speed-sensitive mechanism. To the contrary, Okada provides a "speed change mechanism 5",

rather than a speed-sensitive mechanism (Okada, Col. 2, line 52). Examiner, therefore, overreaches first by incorrectly interpreting Okada, then asserting that Okada teaches and therefore anticipates a supercharger (Application Claim 19); wherein supercharger impeller disengages during deceleration – Okada teaches the opposite (Application Claim 20); wherein disengagement device comprises a speed-sensitive mechanism – Okada teaches a “speed change mechanism” (Application Claim 24).

In view of the above, it is respectfully submitted that claim 19 (and claims 20 and 24, which depend therefrom) are not anticipated by Okada.

Claims 1-4 are rejected under 35 U.S.C. § 102(e), as being anticipated by Chancey U.S. Publication No. 2003/0059293 (“Chancey”).

Chancey discloses a centrifugal pump for the inboard motor of a boat. The centrifugal pump comprises an impeller 35 disposed within housing 40, 41. Claim 1 of the present invention has been amended to recite supercharger including a gearcase comprising a primary gear housing section and a removable gear housing section. In general, Chancey fails to teach a supercharger. More particularly, Chancey does not disclose a supercharger having a gearcase with a removable gear housing section, and thus Chancey cannot be said to anticipate claim 1. Furthermore, it is respectfully submitted that Chancey fails to qualify as prior art as it is nonanalogous and therefore cannot be used in the rejection of the present invention. In order to rely upon a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem concerned. *In Re Oetiker*, 977 F.2d 1443, 1446. (The *Oetiker* court held that the reference (a hook for garments) was neither within applicant's field of endeavor, nor reasonably pertinent to

the particular problem with which the inventor was concerned because one of ordinary skill, seeking to solve the problem of fastening a hose clamp, would not reasonably be expected or motivated to turn to the garment industry to find a fastener).

Similar to *Oetiker*, the cited reference (Chancey) is not in the field of the endeavor, and it is not reasonably pertinent to the particular problem concerned. On one hand, the field of endeavor of the present invention concerns a gearcase for a supercharger. On the other hand, Chancey is concerned with a centrifugal pump for the inboard motor of a boat. One of ordinary skill, seeking to provide an improved supercharger, would not be reasonably expected or motivated to look to a centrifugal pump for a boat for a solution to a problem concerning a supercharger gearcase. On this basis, it is unreasonable to reject the present application based on Chancey.

Claims 8-11 and 13-18 are rejected under 35 U.S.C. § 102(e), as being anticipated by Anderson U.S. Publication No. 2003/0190242 (“Anderson”).

Applicants respectfully set forth that Anderson and the subject application were owned by the same entity (or subject to an obligation of assignment to the same entity) at the time the invention was made. Specifically, both patent applications were owned by, or subject to an obligation of assignment to, Vortech Engineering, Inc. of Channel Islands, California. Referring to MPEP 804.03(c), regarding the treatment of commonly owned cases having different inventive entities, “(s)ubject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, ***shall not preclude patentability*** under this section where the subject matter and the claimed invention

were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.” (*emphasis added*).

In view of the above, it is respectfully submitted that claims 8-11 and 13-18 are not anticipated by Anderson.

Claims 27-30 are rejected under 35 U.S.C. § 102(b), as being anticipated by Joco U.S. Patent No. 4,705,463 (“Joco”).

Joco teaches a compressor wheel assembly for turbochargers comprising a compressor wheel including a boreless hub formed integrally with a circumferential array of centrifugal impeller blades. The wheel hub is secured at its base to a spacer sleeve having an internally threaded bore for threaded reception of a rotatable shaft. According to the teachings of Joco, the impeller is directly mounted to the impeller shaft. By contrast, the subject invention teaches a coupling and bearing element disposed circumferentially between the impeller and the impeller shaft. Claim 27 has been amended to recite that: (1) the impeller is *directly mounted on* the impeller shaft; and (2) the spacer assembly positioned *circumferentially* between the impeller and the bearing assembly. Referring to Figures 2-4 of Joco, impeller 12 clearly is not directly mounted on impeller shaft 20, as required by amended claim 27. Instead, spacer assembly 18 is positioned circumferentially between impeller 12 and impeller shaft 20. Further, Joco’s spacer assembly 18 is not disposed circumferentially between impeller 12 and bearing assembly 50, as required by amended claim 27.

In view of the above, it is respectfully submitted that claim 27 (and claims 28-30, which depend therefrom) are not anticipated by Joco.

Claims 36 and 37 are rejected under 35 U.S.C. § 102(b), as being anticipated by Arnold et al. U.S. Patent No. 6,062,028 (“Arnold”).

Arnold discloses a turbocharger including a compressor housing 16 and a diffuser 32. As depicted in Figure 1, the shroud 30 forms part of the compressor housing 16. In other words, the shroud 30 is not separable from the compressor housing 16. Applicants have amended claim 36 to recite that the compressor housing comprises at least three separable components. Since Arnold does not provide a compressor housing having at least three separable components, it cannot be said to anticipate claim 36.

In view of the above, it is respectfully submitted that claim 36 (and claim 37, which depends therefrom) are not anticipated by Arnold.

Rejection Under 35 U.S.C. § 103

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chancey in view of Horler U.S. Patent No. 4,541,784 (“Horler ‘784”).

Chancey is distinguished from the present invention as set forth above with respect to claim 1. Horler ‘784 fails to cure the deficiencies of Chancey. For this reason, Chancey in view of Horler ‘784 does not render obvious claims 5 and 6. Additionally, the Office Action contends that Horler ‘784 teaches that it is conventional in the centrifugal oil exhaust turbocharger art to utilize a lubrication reservoir within the supercharger, wherein the lubrication reservoir is separate and detachable. However, referring to Horler ‘784, Figure 1, it is apparent that the lubrication reservoir that is not disposed within the supercharger. By contrast, Horler’s lubrication reservoir is typical of commercially available turbocharged engine systems, wherein

the host engine lubrication system is used to lubricate the supercharger. This type of conventional system is identified and discussed as prior art in Application's originally-filed specification (see, e.g., page 8, line 14).

In view of the above, it is respectfully submitted that claims 5 and 6 are not obvious over Chancey in view of Horler '784.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chancey in view of Horler U.S. Patent No. 4,752,193 ("Horler '193").

Chancey is distinguished from the present invention as set forth above with respect to claim 1. Horler '193 fails to cure the deficiencies of Chancey.

In view of the above, it is respectfully submitted that claim 7 is not obvious over Chancey in view of Horler '193.

Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Anderson in view of Troyer U.S. Publication No. 2003/0145656 ("Troyer").

Anderson is distinguished from the present invention as set forth above with respect to claim 8. Troyer fails to cure the deficiencies of Anderson.

In view of the above, it is respectfully submitted that claim 12 is not obvious over Anderson in view of Troyer.

Claim 25 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith/Roberts/Okada in view of Man et al. U.S. Publication No. 2002/0117860 ("Man").

Smith, Roberts and Okada are distinguished from the present invention as set forth above. Man fails to cure the deficiencies of Smith, Roberts and Okada.

In view of the above, it is respectfully submitted that claim 25 is not obvious over Smith/Roberts/Okada in view of Man.

Claim 26 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Okada in view of Roberts.

Okada is distinguished from the present invention as set forth above with respect to claim 19. Roberts fails to cure the deficiencies of Anderson.

In view of the above, it is respectfully submitted that claim 26 is not obvious over Okada in view of Roberts.

Claims 38 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Arnold.

Arnold is distinguished from the present invention as set forth above with respect to claim 36.

In view of the above, it is respectfully submitted that claims 38 and 39 are not obvious over Arnold.

Claim 40 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Arnold in view of design choice.

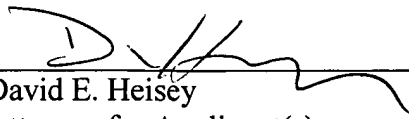
Arnold is distinguished from the present invention as set forth above with respect to claim 36.

In view of the above, it is respectfully submitted that claim 40 is not obvious over Arnold.

Based on the foregoing, favorable reconsideration and allowance of the claims is solicited. If necessary, the Commissioner is hereby authorized in this and concurrent replies to charge payment (or credit any overpayment) to Deposit Account No. 50-2298 for any additional required fees.

Respectfully submitted,

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Date



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In The Drawings

Replacement sheets are provided herewith for replacement of original drawing sheets 1 and 7.